



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI

GOVERNOR

DAVID P. LITTELL

COMMISSIONER

**Farmington Chipping Enterprises, Inc.  
Franklin County  
Farmington, Maine  
A-619-71-H-N (SM)**

**Departmental  
Findings of Fact and Order  
Air Emission License  
After the Fact**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

**I. REGISTRATION**

**A. Introduction**

1. The Air Emission License for Farmington Chipping Enterprises, Inc. (FCE) expired on January 3, 2007. FCE has applied to renew their expired license permitting the operation of emission sources associated with their wood chipping facility.
2. The equipment addressed in this license is located at 189 Hemlock Drive in Farmington, Maine.

**B. Emission Equipment**

The following equipment is addressed in this air emission license:

**Electrical Generation Equipment**

<b><u>Equipment</u></b>	<b><u>Maximum Capacity (MMBtu/hr)</u></b>	<b><u>Maximum Firing Rate (gal/hr)</u></b>	<b><u>Fuel Type, % sulfur</u></b>	<b><u>Stack #</u></b>
Diesel #1	10.15	74.1	diesel, 0.05%	1
Diesel #2	5.51	40.2	diesel, 0.05%	2

Previously licensed Diesel #3 was never installed.

**AUGUSTA**

17 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0017  
(207) 287-7688 FAX: (207) 287-7826  
RAY BLDG., HOSPITAL ST.

**BANGOR**

106 HOGAN ROAD  
BANGOR, MAINE 04401  
(207) 941-4570 FAX: (207) 941-4584

**PORTLAND**

312 CANCO ROAD  
PORTLAND, MAINE 04103  
(207) 822-6300 FAX: (207) 822-6303

**PRESQUE ISLE**

1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04769-2094  
(207) 764-0477 FAX: (207) 760-3143

C. Application Classification

The previous air emission license for FCE expired on January 3, 2007. A complete application was not submitted on time, therefore FCE is considered to be an existing source applying for an after-the-fact renewal. The Department has determined the facility is a minor source and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (last amended December 24, 2005). With the fuel limit on Diesels #1 and #2 the facility is licensed below the major source thresholds and is considered a synthetic minor.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for an after-the-fact renewal requires an analysis similar to a Best Available Control Technology analysis per 06-096 CMR 115.

B. Diesels #1 and #2

Diesel #1 is a Caterpillar Model 3512 DITA unit installed in 1994 and is used exclusively to power the chipping machine.

Diesel #2 is a Caterpillar Model 3406 DITA unit installed in 1994 and is used to power the other mill equipment and facility lighting.

Control measures on diesel engines are primarily directed at reducing emissions of NO<sub>x</sub> and CO. In their BACT analysis, FCE evaluated the following control strategies: Injection Timing Retard (ITR), Selective Catalytic Reduction (SCR), Selective Non-Catalytic Reduction (SNCR), and operational limitations.

Retarding the timing of the diesel fuel injection causes the combustion process to occur later in the power stroke when the combustion chamber volume is increasing. By increasing the volume, the combustion temperature and pressure are lowered, thereby lowering NO<sub>x</sub> formation. Manually setting the fuel injection timing on the diesel engines is feasible. However, the resulting effects on

emissions, engine reliability and life, and fuel economy are unknown for these models. Southworth-Milton, the engine distributor, does not recommend ITR for these models. Therefore, ITR was excluded from consideration as not technically justified.

SNCR uses ammonia or urea as a chemical agent to reduce NO<sub>x</sub> formation without the use of a catalyst. SNCR requires exhaust temperatures much higher than what would be expected from these diesel engines to be effective. Therefore, SNCR was eliminated as not technically feasible.

SCR uses ammonia or urea as a chemical agent to reduce NO<sub>x</sub> formation in the presence of a catalyst. The catalyst allows the reduction to take place at a lower temperature than SNCR. SCR has been used on generators that are similar in size and operating profiles as the generators utilized at FCE. Therefore, SCR was determined to be a technically feasible control strategy.

However, the substantial expense to purchase, install, and operate an SCR system for these two engines was determined to be excessive and unwarranted considering FCE can achieve a significant portion of the same reduction in NO<sub>x</sub> through accepting an annual fuel limit. Additionally, SCR can have the negative result of increased ammonia emissions which do not occur through use of an annual fuel limit.

Therefore, the Department determined that BACT for control of NO<sub>x</sub> from Diesels #1 and #2 was an annual fuel limit not to exceed 185,792 gallons per year.

A summary of the BACT analysis for Diesel #1 and Diesel #2 is the following:

1. Diesel #1 and Diesel #2 shall fire only diesel fuel with a maximum sulfur content not to exceed 0.05% by weight.
2. The total fuel use Diesel #1 and Diesel #2 shall not exceed 185,792 gal/year of diesel fuel based on a 12 month rolling total
3. 06-096 CMR 106 regulates fuel sulfur content, however in this case a BACT analysis for SO<sub>2</sub> determined a more stringent limit of 0.05% was appropriate and shall be used.
4. 06-096 CMR 103 regulates PM emission limits. The PM<sub>10</sub> limits are derived from the PM limits.
5. NO<sub>x</sub>, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
6. Visible emissions from Diesel #1 and Diesel #2 shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

C. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

D. General Process Emissions

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period.

E. Annual Emissions

FCE shall be restricted to the following annual emissions, based on a 12 month rolling total:

**Total Licensed Annual Emissions for the Facility**

**Tons/year**

(used to calculate the annual license fee)

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Diesels	1.5	1.5	0.7	40.7	10.8	1.2
<b>Total TPY</b>	<b>1.5</b>	<b>1.5</b>	<b>0.7</b>	<b>40.7</b>	<b>10.8</b>	<b>1.2</b>

**III.AMBIENT AIR QUALITY ANALYSIS**

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

<b><u>Pollutant</u></b>	<b><u>Tons/Year</u></b>
PM	25
PM <sub>10</sub>	25
SO <sub>2</sub>	50
NO <sub>x</sub>	100
CO	250

Based on the total facility licensed emissions, FCE is below the emissions level required for modeling and monitoring.

### ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-619-71-H-N subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

### STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
  - A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    - 2. pursuant to any other requirement of this license to perform stack testing.
  - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - C. submit a written report to the Department within thirty (30) days from date of test completion.[06-096 CMR 115]

- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
  - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
  - C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- [06-096 CMR 115]
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

**SPECIFIC CONDITIONS**

**(16) Diesels #1 and #2**

- A. Diesel #1 and Diesel #2 shall each fire diesel fuel with a sulfur limit not to exceed 0.05% by weight (500 ppm). [06-096 CMR 115, BACT]
- B. Total fuel use for Diesel #1 and Diesel #2 shall not exceed 185,792 gal/yr of diesel fuel. Compliance shall be demonstrated by fuel records from the supplier showing the quantity of fuel delivered and the sulfur content of the fuel. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BACT]
- C. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Diesel #1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Diesel #2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

- D. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Diesel #1	1.22	1.22	0.52	32.48	8.63	0.91
Diesel #2	0.66	0.66	0.28	17.63	4.68	0.50

- E. Visible emissions from Diesel #1 and Diesel #2 shall each not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

**(17) Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [06-096 CMR 101]



(18) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(19) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 (last amended November 8, 2008), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

- 1) A computer program and accompanying instructions supplied by the Department; or
- 2) A written emission statement containing the information required in 06-096 CMR 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator  
Maine DEP  
Bureau of Air Quality  
17 State House Station  
Augusta, ME 04333-0017 Phone: (207) 287-2437

The emission statement must be submitted as specified by the date in 06-096 CMR 137.

Farmington Chipping Enterprises, Inc.  
Franklin County  
Farmington, Maine  
A-619-71-H-N

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Findings of Fact and Order  
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After the Fact

- (20) FCE shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 5<sup>th</sup> DAY OF March, 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brookings  
DAVID P. LITTELL, COMMISSIONER

**The term of this license shall be five (5) years from the signature date above.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 8/4/08

Date of application acceptance: 8/26/08

Date filed with the Board of Environmental Protection: \_\_\_\_\_

This Order prepared by Lynn Ross, Bureau of Air Quality.

